

Research Methods Learning Objectives

The following learning objectives have been prepared to assist you in your preparation for the master's comprehensive examination in the area of research methods. A review of content related to these learning objectives should provide you with the foundation required for a successful mastery of the content.

1. Students should understand a general definition of research design.
2. Students should know why educational research is undertaken, and the audiences that profit from research studies.
3. Students should be able to identify the overall process of designing a research study from its inception to its report.
4. Students should be familiar with ethical issues in educational research, including those issues that arise in using quantitative and qualitative research.
5. Students should know the primary characteristics of quantitative research and qualitative research.
6. Students should be able to identify a research problem stated in a study.
7. Students should be familiar with how to write a good introduction to an educational research study and the components that comprise such an introduction.
8. Students should be familiar with conducting a literature review for a scholarly educational study:
 - a. The steps in the overall process.
 - b. The types of databases often searched.
 - c. The criteria for evaluating the quality of a study.
 - d. The ways of organizing the material found.
 - e. The different types of literature reviews.
9. Students should be able to distinguish a purpose statement, a research question or hypothesis, and a research objective.
10. Students should be able to define the meaning of a variable, and to be able to identify independent, dependent, and mediating variables.
11. Students should be able to distinguish between categorical and continuous measures.
12. Students should be able to define theory use in quantitative research.
13. Students should be able to design a good quantitative purpose statement and good quantitative research questions and hypotheses.
14. Students should be able to define a central phenomenon in qualitative research.
15. Students should be able to design a good qualitative purpose statement and a good central question in qualitative research.
16. Students should know the steps in the process of quantitative data collection.
17. Students should be able to distinguish between a population and a sample.
18. Students should know the various types of quantitative sampling and which ones present the most rigorous approach to use.
19. Students should understand the link between quantitative research questions and data collection and how research questions are operationalized in educational practice.
20. Students should be familiar with the steps involved in identifying and selecting a good instrument to use in a study.

21. Students should be familiar with current uses of the terms reliability and validity in educational research.
22. Students should know how to create a quantitative codebook for organizing their data.
23. Students should know the types of descriptive statistics typically reported in educational research studies.
24. Students should know how to conduct a statistical test of a hypothesis.
25. Students should know the criteria that can be used to select an appropriate statistical test to answer a research question or hypothesis.
26. Students should know the steps involved in qualitative data collection.
27. Students should know how sample size is determined in qualitative research.
28. Students should know the types of qualitative data typically collected in a qualitative study.
29. Students should be familiar with good practices in conducting a qualitative interview and observation.
30. Students should be able to describe the inductive nature of qualitative data analysis.
31. Students should be able to state the steps involved in coding qualitative data.
32. Students should be able to describe why qualitative data analysis is considered to be “interpretive.”
33. Students should know the various types of validity strategies typically used in good qualitative research.
34. Students should be able to distinguish between the writing structure used for a quantitative study and one used for a qualitative study.
35. Students should know the conventions with good APA style for scholarly writing.
36. Students should know the criteria that might be used to evaluate a quantitative study and a qualitative study.
37. Students should be familiar with mixed methods research:
 - a. Why it is suitable for studying types of research problems
 - b. The reasons often cited for using mixed methods research
 - b. The types of mixed methods designs that are typically used
 - c. How to interpret a diagram of a mixed methods design by knowing the notations